09/832,921 907

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L13	2	("6615234").URPN. and (fee or charge or account)	USPAT	OR	ON	2005/03/12 18:03
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L33	0	("loBiondo$.in.").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/12 20:05
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Considered 3/12/05

US006690481B1

(12) **United States Patent**
Yeung et al.

(10) **Patent No.: US 6,690,481 B1**
(45) **Date of Patent: Feb. 10, 2004**

(54) **INTERNET-BASED PUSH PRINTING OVER CABLE NETWORK**

(75) Inventors: **Michael Lee Yeung**, Mission Viejo, CA (US); **Don Francis Purpura**, Yorba Linda, CA (US); **George Koppich**, Palos Verdes Estates, CA (US)

(73) Assignee: **Canon Kabushiki Kaisha**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/357,433**

(22) Filed: **Jul. 20, 1999**

(51) **Int. Cl.**[7] **G06K 15/00**
(52) **U.S. Cl.** **358/1.15**; 358/1.13
(58) **Field of Search** 358/1.1, 1.6, 1.9, 358/1.13, 1.15, 434, 435, 436, 437, 438; 707/200, 500, 501.1, 104.1; 709/249, 324, 327, 321, 238

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U.S. patent application Ser. No. 09/325,040, filed Jun. 7, 1999, Brewster et al.

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Primary Examiner—Arthur G. Evans
(74) *Attorney, Agent, or Firm*—Fitzpatrick, Cella, Harper & Scinto

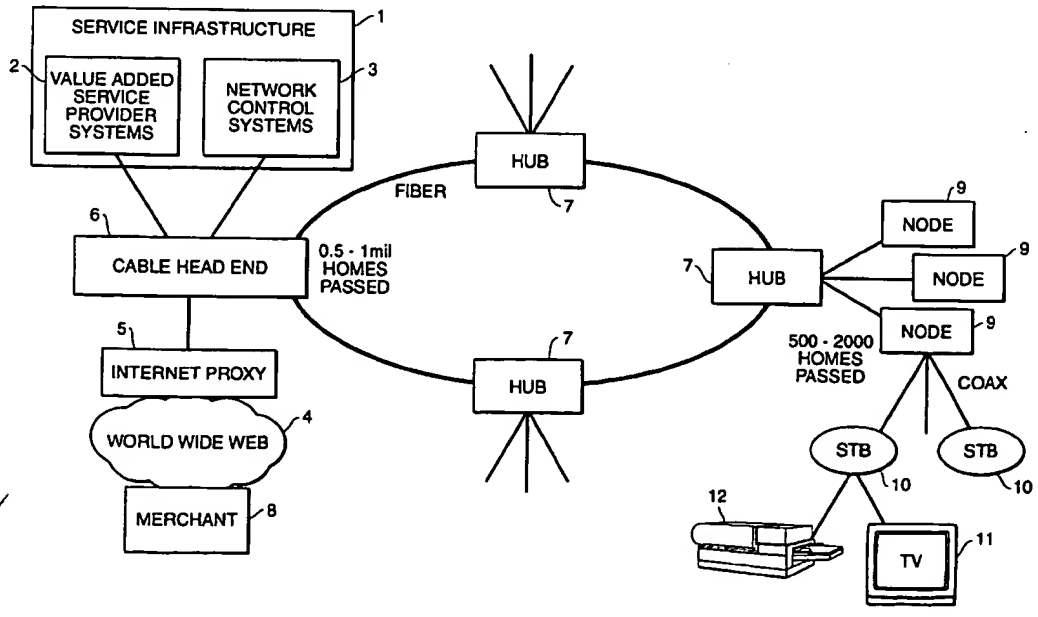
(57) **ABSTRACT**

Push printing from internet sources to a set top box through a cable head end connected to the set top box by a digital cable network. Push printing includes printing by unicast (point-to-point) printing from a remote internet source to a specifically designated printer connected to a specifically addressed set top box, multicast (one-to-many) printing from a single remote web source to multiple ones of printers connected to respective set top boxes, and one-to-group printing from a single remote web source to a group of set top boxes defined at the cable head end. Both unicast and multicast printing are accomplished from the remote internet site to a cable head end connected to the internet, with the cable head end transmitting the print job via a digital cable network to subscriber set top boxes. Notification of print status is provided from the set top box back to the cable head end, thereby allowing the cable head end to provide notification of successful printout back to the remote internet site.

20 Claims, 12 Drawing Sheets

EXAMINERS NOTES

PARTIAL LISTINGS ONLY



US-PAT-NO: 6690481

DOCUMENT-IDENTIFIER: US 6690481 B1
See image for Certificate of Correction

TITLE: Internet-based push **printing over cable network**

---------- KWIC ---------

Application Filing Date - AD (1):
19990720

TITLE - TI (1):
Internet-based push **printing over cable network**

Detailed Description Text - DETX (43):
Generalized goals of merchant initiated printout from remote internet sites include the following. First, the merchant is able to submit the print job at its own internet site, by means of a client application running on the merchant's CPU. The merchant is able to specify parameters for the print job, including destination address and whether or not the transmission is via secured or unsecured transmission. The destination address may specify unicast or multicast printing, meaning that the destination address might identify only a single recipient, or might represent multiple recipients or a group of recipients. The print job is generated in non-proprietary device independent format, by use of widely available client applications, or even customized print applications, that print through standardized and device independent format. This is achieved through separation of the print submission client and the content creation tool: the content creation tool is left to the merchant, whereas the print submission client is embodied in the CPSI client described above. At the cable head end, resident software maintains a directory of user profiles in preferences directory 21, the profiles including subscriber name, subscriber **account** number, address, printer model, set top box capabilities, any blocking filters, and policy data. The CPSI spooler at the cable head end discards print jobs that meet criteria specified by blocking filter data, or accepts only print jobs that meet other specified criteria. A system administrator at the cable head end is able to display a print queue, indicating global print jobs for all cable subscribers, or print jobs on a per user basis. Using such a print queue, the system administrator is able to examine the status of jobs in the queue, and the status of corresponding printers attached to set top boxes, and is further able to delete jobs in the queue and override any of user selectable print options. The cable head end spooler does not commence a print job until it has ascertained that the set top box is ready to accept print data, and that the attached printer is ready and on line. Preferably, the CPSI spooler in the set top box is able to commence a print operation before the entire print job has been downloaded from the cable head end, and is further able to confirm successful completion of print jobs.

US006611348B1

(12) **United States Patent**
Chase et al.

(10) **Patent No.: US 6,611,348 B1**
(45) **Date of Patent: Aug. 26, 2003**

(54) **SYSTEM AND METHOD FOR COMMUNICATION OVER A TCP/IP NETWORK WITH AN APPLETALK NETWORK FOR PUBLISHING AND PRINTING SERVICES**

(75) Inventors: **John H. Chase**, Stillwater, MN (US); **Scott R. Rosenlund**, Chaska, MN (US)

(73) Assignee: **Banta Corporation**, Menasha, WI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/364,606**

(22) Filed: **Jul. 30, 1999**

(51) **Int. Cl.**[7] **G06K 15/00**
(52) **U.S. Cl.** **358/1.15**; 358/3.29
(58) **Field of Search** 358/1.1, 1.12, 358/1.18, 1.15, 3.29; 329/100.01, 100.06

(56) **References Cited**

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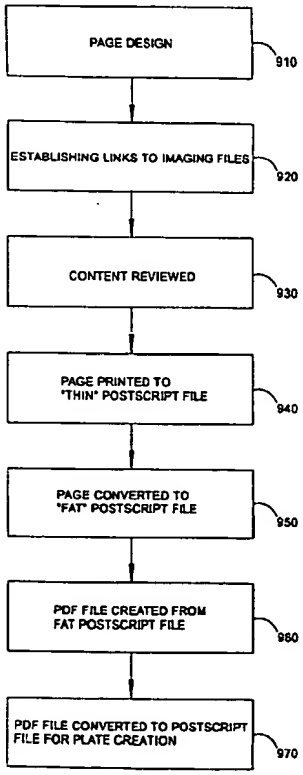
Primary Examiner—Jerome Grant, II
(74) *Attorney, Agent, or Firm*—Foley & Lardner

(57) **ABSTRACT**

A printing and publishing system providing prepress, content management, infrastructure, and workflow services to system subscribers using computers equipped with the AppleTalk communication protocol in real time using a communication network is disclosed herein. The printing and publishing system includes a central service facility and an end-user facility and/or a printing company facility. The end user facility provides page building operations using computers equipped with the AppleTalk communication protocol. The page building operations include the design and construction of pages from images, text, and data available via said communication network. The central service facility provides storage, file processing, remote access, and content management operations. The file processing operations include generating a plate-ready file from pages designed at said end user facility, said plate-ready file having a file format capable of high resolution and ready for creation of a printing plate. The printing company facility provides printing operations such as producing a printing plate from said plate-ready file.

11 Claims, 19 Drawing Sheets



US-PAT-NO: 6611348

DOCUMENT-IDENTIFIER: US 6611348 B1

TITLE: System and method for communication over a TCP/IP network with an appletalk **network for publishing and printing** services

---------- KWIC ---------

Application Filing Date - AD (1):
19990730

TITLE - TI (1):
System and method for communication over a TCP/IP network with an appletalk **network for publishing and printing** services

Detailed Description Text - DETX (70):
Upon receiving this information, DCM server 131 will determine if the customer is permitted to access central service facility 105. If so, DCM server 131 will permit access but only to the extent provided by that customer's profile. DCM server 131 permits a wide variety of **accounts** to be created. A small client, for example, may have a multiple **account** for everyone at that customer's end user facility 300 or printer customer facility 400. Larger customers may have multiple **accounts** (and hence a single **account** username and password) for each department. Even larger customers may have an **account** per each individual employed by the customer. The arrangement chosen by the customer will depend on their particular needs and level of security concerns.

Detailed Description Text - DETX (71):
Each different user **account** has an associated profile. These profiles determine such things as the type of files that may be access at central service facility 105, the time files may be accessed at central service facility 105, and the access each **account** has to particular programs at central service facility 105. For example, a field representative of the customer who is responsible for selling customer's products, may merely be able to browse the files to see what kind of products are available. Others may have the ability to browse, download, and/or retrieve files. Some **accounts** may have associated within the ability to not only retrieve but to make edits to files and record those changed files back into DCM database 132.

Detailed Description Text - DETX (80):
Finally, the metadata stored in the asset tables include fields indicative of file historical information for each of the files stores in DCM system 130. This data includes such information as dates and times of access for each file, types of access (read, write, revise or create), and the person (e.g., the

account number, individual, group or customer number identifier) who performed these file accesses.

Detailed Description Text - DETX (82):

Alternatively, central service facility 105 can be coupled to an end user over public network 190, such as the Internet. In this second access mode, as shown in FIG. 17, block 1702, the end user makes the initial contact with central service facility 105 using an Internet browser, such as Internet Explorer or Netscape Navigator and entering the Uniform Resource Locator (URL) of central service facility 105 in the browser's address location box. This URL or domain address name connects the end user to DCM system 130. DCM system 130, in turn, transmits a hyper-text document to the end user over the Internet. This hyper-text document is preferably a form, and includes blanks for user name and password. Once the end user enters this information and transmits it back to the central service facility, the central service facility, and DCM server 131, in particular, verifies the user name and password with **account** information stored in the user profile. If there is no correspondence between the user name and password provided by the end user the central service facility, and the DCM server 131, in particular, will not verify the end user access to the central service facility. If there is correspondence between the user name and password provided by the end user and corresponding **account** established in the user profile, the DCM server 131 will grant file access permission to the end user in accordance with the corresponding user profile.

US006552813B2

(12) **United States Patent**
Yacoub

(10) **Patent No.: US 6,552,813 B2**
(45) **Date of Patent: *Apr. 22, 2003**

(54) **DIRECTING PRINT JOBS IN A NETWORK PRINTING SYSTEM**

(75) Inventor: **Yousef R. Yacoub**, San Jose, CA (US)

(73) Assignee: **Sun Microsystems, Inc.**, Mountain View, CA (US)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **08/661,359**

(22) Filed: **Jun. 11, 1996**

(65) **Prior Publication Data**

US 2003/0011805 A1 Jan. 16, 2003

(51) **Int. Cl.**[7] **G06F 15/00**
(52) **U.S. Cl.** **358/1.1**; 358/1.15
(58) **Field of Search** 395/101, 112, 395/113, 114, 115, 116, 180, 181, 185.01, 185.02, 185.04, 185.05, 200.01, 200.02, 200.03, 200.14; 358/404, 406, 444, 405, 437, 407, 296; 371/47.1, 48; 399/8, 9, 10, 16, 18, 19

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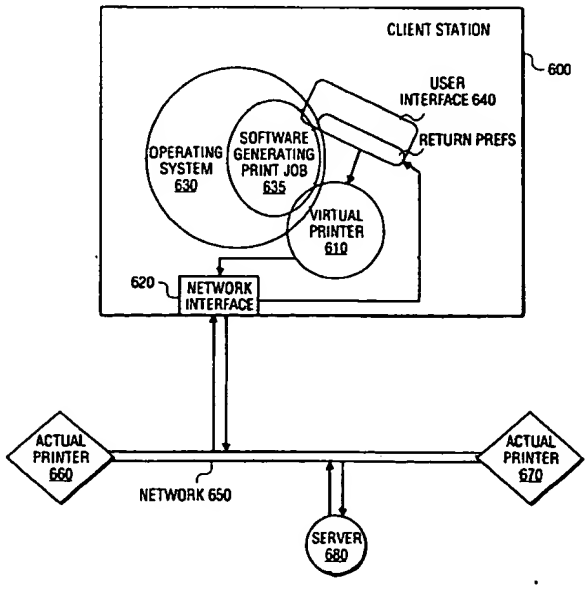
Primary Examiner—Gabriel Garcia
(74) *Attorney, Agent, or Firm*—Blakely Sokoloff Taylor & Zafman

(57) **ABSTRACT**

A virtual printer for print jobs printed on networked printers. First, the virtual printer checks a user's preferences regarding a print job the user wishes to send such as speed and image quality. Next, the virtual printer determines, using a server, database or other query, the most appropriate printer complying with the print job preferences, and located physically near the user and sends the print job to that printer. If the printer returns an error signal, the virtual printer will determine a different printer which closely complies with the print job preferences and re-send the print job. If a busy signal is returned, the user will be given the choice of waiting or having the virtual printer automatically determine the next available appropriate printer. When the print job is complete, the user will be notified of the physical location of the printer where the print job was processed.

20 Claims, 5 Drawing Sheets



US-PAT-NO: 6552813

DOCUMENT-IDENTIFIER: US 6552813 B2

TITLE: Directing print jobs in a **network printing** system

---------- KWIC ---------

Application Filing Date - AD (1):
19960611

TITLE - TI (1):
Directing print jobs in a **network printing** system

Detailed Description Text - DETX (16):
First, at step 300, the user or client requests a print job from his station or computer system. A print job may be requested by software or an application within the computer system of the user who selects a print command from the application. According to step 310, a command menu or graphical user interface (GUI) menu will pop up on the user's display screen as a dialog so that the user can select the parameters of his print job such as speed, quality and either color or black and white. Once a user or client has finished selecting all of the parameters of his print job from the menu at step 315, the user may then choose to print the job. Next, according to step 330, the print job is spooled to the server, The server will be capable of containing many such print jobs from different users and clients on the network. Once any job is spooled to the server, the server will decide which printer is available to print the job (step 340) using the user's preferences selected from the GUI or command menu. The user's preferences are also sent along with the actual print job to be printed when spooled to the server. The server will have a map of all available printers along with the status of each printer, such as busy or paper out which can be updated in a timely manner. Though not the focus of this invention, the server will also have a mapping of the physical location (coordinate map) of each of the printers on the network such that when the server decides which printer is available to print the job, the server can also take into **account** the physical location of the user and find the printer nearest to the user which complies with the print job preferences of the user. Once the appropriate printer is found, the print job is sent and spooled to that printer (step 350).

US006615234B1

(12) **United States Patent**
Adamske et al.

(10) **Patent No.: US 6,615,234 B1**
(45) **Date of Patent: Sep. 2, 2003**

(54) **SYSTEM AND METHOD FOR NETWORK-BASED DOCUMENT DELIVERY**

(75) Inventors: **Bradley S. Adamske**, San Juan Capistrano, CA (US); **Matthew C. Todish**, Austin, TX (US)

(73) Assignee: **Taylor Corporation**, North Mankato, MN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/309,757**

(22) Filed: **May 11, 1999**

(51) **Int. Cl.**[7] **G06F 15/16**
(52) **U.S. Cl.** **709/203**; 709/200; 709/202; 709/206; 709/237; 715/523; 715/526
(58) **Field of Search** 709/200–207, 709/217–229, 232, 237–239, 244; 707/10; 715/513, 523–524, 526–527

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Primary Examiner—Bharat Barot
(74) *Attorney, Agent, or Firm*—Gray, Plant, Mooty, Mooty & Bennett, P.A.

(57) **ABSTRACT**

A system and method for delivering an electronic document over a network, printing in hard copy form at a remote destination, and delivery of the hard copy document to a recipient. A user sends the electronic document to a server over a client-server network (which can be the Internet) where a conversion software program converts the electronic document from its client application format to a printable format (e.g., a PostScript file). A print preview program then converts printable version of the electronic document to a graphical view format. The user can now preview the document on-line to determine how the hard copy document will look upon delivery. The printable version of the electronic document is then transmitted across a printing network (which can also be the Internet) to a print spooler server. The print spooler server prints a hard copy version of the document on an attached printer. The hard copy document is then either delivered to the recipient or held for pick-up by the recipient.

27 Claims, 3 Drawing Sheets

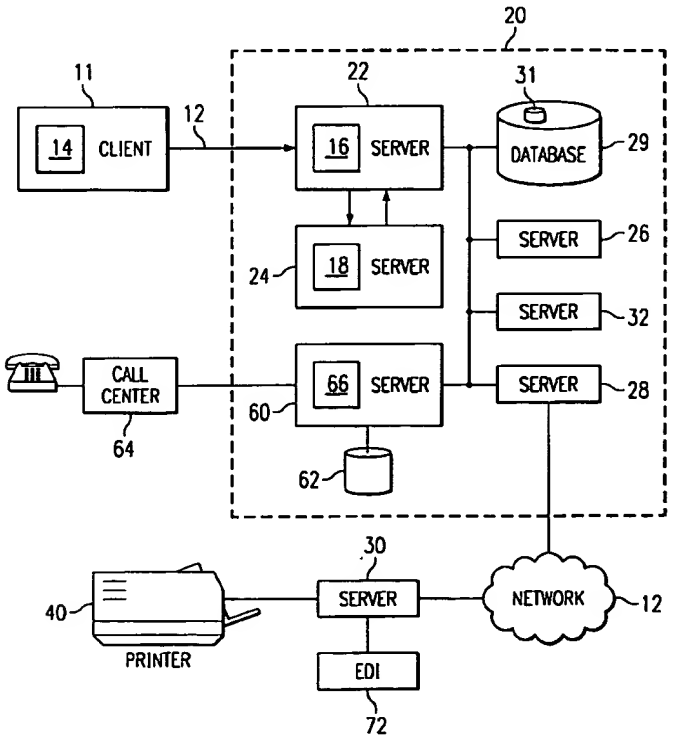
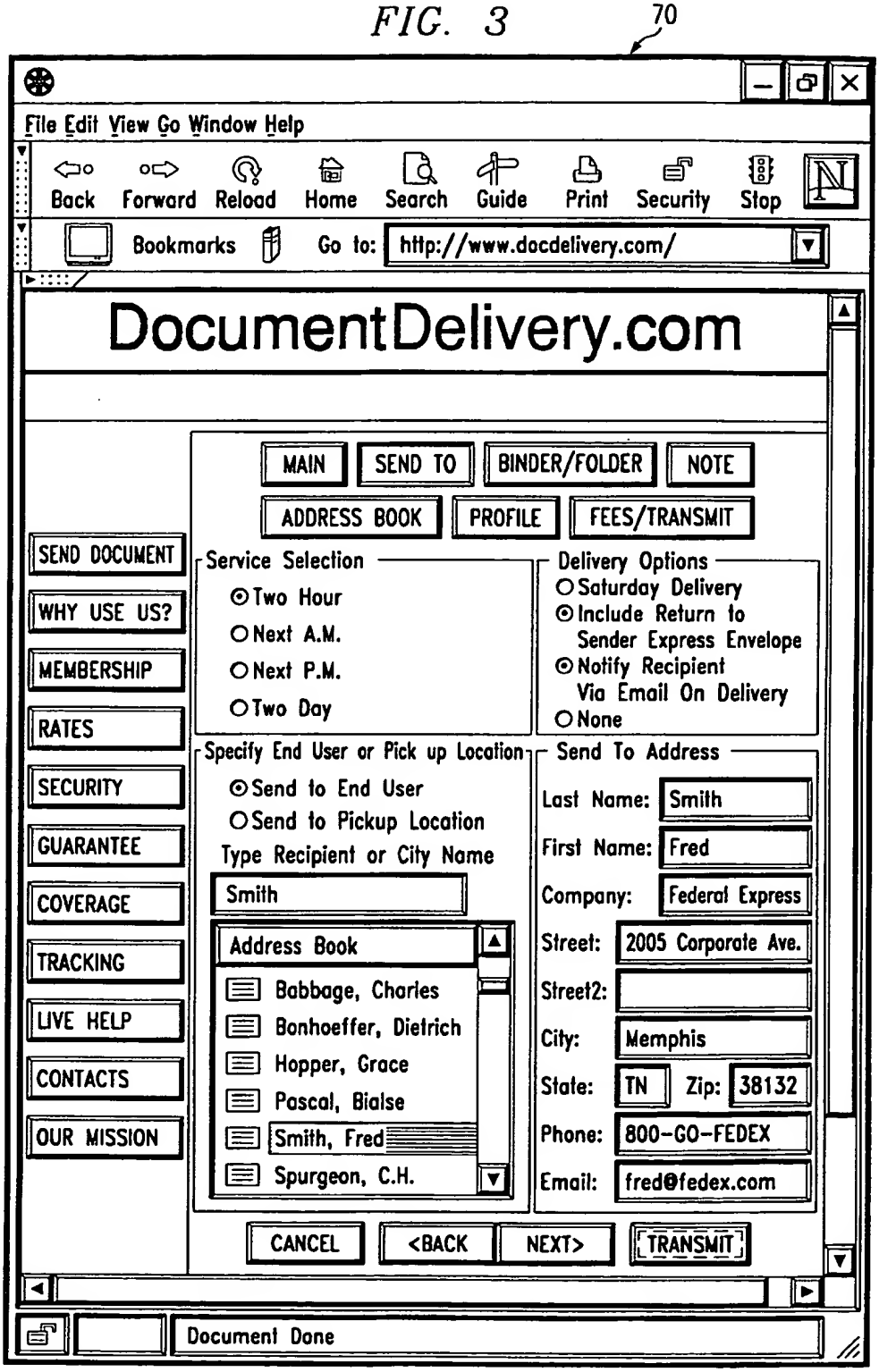


FIG. 3


70
File Edit View Go Window Help
Back
Forward
Reload
Home
Search
Guide
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Go to: http://www.docdelivery.com/
DocumentDelivery.com
MAIN
SEND TO
BINDER/FOLDER
NOTE
ADDRESS BOOK
PROFILE
FEES/TRANSMIT
SEND DOCUMENT
WHY USE US?
MEMBERSHIP
RATES
SECURITY
GUARANTEE
COVERAGE
TRACKING
LIVE HELP
CONTACTS
OUR MISSION
Service Selection
Two Hour
Next A.M.
Next P.M.
Two Day
Delivery Options
Saturday Delivery
Include Return to Sender Express Envelope
Notify Recipient Via Email On Delivery
None
Specify End User or Pick up Location
Send to End User
Send to Pickup Location
Type Recipient or City Name
Smith
Address Book
Babbage, Charles
Bonhoeffer, Dietrich
Hopper, Grace
Pascal, Blaise
Smith, Fred
Spurgeon, C.H.
Send To Address
Last Name: Smith
First Name: Fred
Company: Federal Express
Street: 2005 Corporate Ave.
Street2:
City: Memphis
State: TN Zip: 38132
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Email: fred@fedex.com
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NEXT>
TRANSMIT
Document Done

US-PAT-NO: 6615234

DOCUMENT-IDENTIFIER: US 6615234 B1

TITLE: System and method for network-based document delivery

---------- KWIC ---------

Abstract Text - ABTX (1):

A system and method for delivering an electronic document over a **network, printing** in hard copy form at a remote destination, and delivery of the hard copy document to a recipient. A user sends the electronic document to a server over a client-server network (which can be the Internet) where a conversion software program converts the electronic document from its client application format to a printable format (e.g., a PostScript file). A print preview program then converts printable version of the electronic document to a graphical view format. The user can now preview the document on-line to determine how the hard copy document will look upon delivery. The printable version of the electronic document is then transmitted across a **printing network** (which can also be the Internet) to a print spooler server. The print spooler server prints a hard copy version of the document on an attached printer. The hard copy document is then either delivered to the recipient or held for pick-up by the recipient.

Application Filing Date - AD (1):

19990511

Brief Summary Text - BSTX (5):

Electronic mail, or e-mail, provides a mechanism for sending information in electronic form as electronic messages from one computer user to another over a network. Sending information in e-mail messages over the Internet has become commonplace for many businesses to accomplish basic communication. However, e-mail is typically produced in an ASCII based format that is often problematic for communication of formatted or complex documents that include such features as PostScript formatted objects, page layout grids, multiple or unusual fonts, graphics, tables, and other complex formatting. Furthermore, use of e-mail does not result in the delivery of a hard copy of the document to the recipient. The attachment of documents to an e-mail requires each recipient to have an e-mail **account** and the appropriate application loaded on the receiving computer in order to view and/or print the document.

Detailed Description Text - DETX (17):

After user 10 verifies the print preview, at operational screen 70 user 10 can select media options (e.g. duplex printing, paper or transparencies, color or black and white), output handling options (e.g. stapled, bound, placed in folders or binders) and destination(s)/recipient(s). User 10 can also specify delivery instructions and select billing/payment options (e.g. credit card

payment or corporate **charge**). All of this information can be stored in database 29. Database 29 can include the user's log in, user ID, password, address book and billing information. Database 29 can also include financial allocation information for the third-party partners to track what third-party partner performed the delivery (if applicable) and the amount owed each third-party partner. Database 29 can also contain pointers pointing to where each converted document (in PostScript or other portable printable format) resides on centralized file server 26 and information linking each stored document to a user. In addition, database 29 also serves as a central repository for all of the electronic documents delivered to the various destination printers via web server 22. Database 29 will also contain a table of locations for all potential destinations and the print spooler server ID numbers at these locations. When user 10 selects a destination and service selection, web server 22 will match the destination to a particular print spooler server ID and will include in the overhead associated with the document that print spooler server ID.

US006859832B1

(12) **United States Patent**
Gecht et al.

(10) **Patent No.: US 6,859,832 B1**
(45) **Date of Patent: Feb. 22, 2005**

(54) **METHODS AND SYSTEMS FOR THE PROVISION OF REMOTE PRINTING SERVICES OVER A NETWORK**

(75) Inventors: **Guy Gecht**, San Jose, CA (US); **Philip A. Lodwick**, Richfield, MN (US); **Loren Schoenzeit**, Orono, MN (US); **John D. Steinberg**, Millbrae, CA (US); **Ofer Tenenbaum**, San Jose, CA (US)

(73) Assignee: **Electronics for Imaging, Inc.**, Foster City, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 785 days.

(21) Appl. No.: **09/688,457**

(22) Filed: **Oct. 16, 2000**

(51) **Int. Cl.**[7] **G06F 13/00**
(52) **U.S. Cl.** **709/224**; 709/219; 709/225; 719/321
(58) **Field of Search** 709/219, 224, 709/225, 202, 203, 217, 223; 719/321, 328, 329

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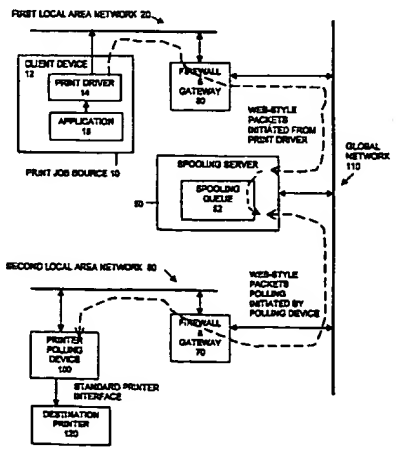
Primary Examiner—Viet D. Vu
(74) *Attorney, Agent, or Firm*—Barry R. Lipsitz; Douglas M. McAllister

(57) **ABSTRACT**

The present invention relates to methods and systems for providing printing services over a communications network. In particular, the present invention enables a user to obtain print jobs at an unspecified location which may be remote from the source of the print job. A spooling server is used to store a print job received via the network from a print job source. A printer polling device, which may be at a location remote from the print job source, is capable of polling the spooling server via the network to identify whether any print jobs associated with the printer polling device are available for printing at an associated printer. The spooling server need not initiate contact with the printer through a firewall, since it is polled by the printer polling device. Thus, network security is maintained. A fee can be charged for the printing services provided.

108 Claims, 11 Drawing Sheets



US-PAT-NO: 6859832

DOCUMENT-IDENTIFIER: US 6859832 B1

TITLE: Methods and systems for the provision of remote printing services over a network

---------- KWIC ---------

Abstract Text - ABTX (1):

The present invention relates to methods and systems for providing printing services over a communications network. In particular, the present invention enables a user to obtain print jobs at an unspecified location which may be remote from the source of the print job. A spooling server is used to store a print job received via the network from a print job source. A printer polling device, which may be at a location remote from the print job source, is capable of polling the spooling server via the network to identify whether any print jobs associated with the printer polling device are available for printing at an associated printer. The spooling server need not initiate contact with the printer through a firewall, since it is polled by the printer polling device. Thus, network security is maintained. A **fee** can be charged for the printing services provided.

Brief Summary Text - BSTX (2):

The present invention relates to methods and systems for providing printing services over a communications network. In particular, the present invention enables a user to obtain print jobs at an unspecified location which may be remote from the source of the print job. A spooling server is used to store a print job received via the network from a print job source. A printer polling device, which may be at a location remote from the print job source, is capable of polling the spooling server via the network to identify whether any print jobs associated with the printer polling device are available for printing at one or more associated printers. A **fee** can be charged for the printing services provided.

Brief Summary Text - BSTX (16):

It would be still further advantageous to make such printing services available to a user for a **fee**.

Brief Summary Text - BSTX (28):

In an illustrative embodiment, a **fee** may be charged to access the spooling server. The **fee** can be based on one of print job size in bytes, print job size in number of pages, print job type, time for printing, time for storage, monthly **fee,** per use **fee,** lifetime membership, monthly membership, use of color, use of black and white, page size, location, convenience, number of images, print quality, image quality, or other suitable factors. The **fee** may be charged for providing a print job to the spooling server and/or retrieving a

print job from the spooling server. The **fee** can be paid via a client device associated with the print job source, the printer polling device, or other suitable device, such as a smart card, a telephone, a personal digital assistant, or the like.

Brief Summary Text - BSTX (30):
Print job source application software may be distributed to end users on a royalty-bearing or royalty-free basis, and the end user may be charged a **fee** for each print job submitted to a spooling server, and/or for each job retrieved from a spooling server.

Brief Summary Text - BSTX (31):
The spooling server may be sold, rented, licensed or distributed freely to a print server provider. The print server provider may be, for example, a corporation, university, government agency, or other similar entity. The print server provider may provide services to end users for a **fee** for providing a print job to the spooling server and/or retrieving a print job from the spooling server.

Brief Summary Text - BSTX (32):
The printer polling device may be sold, rented, licensed or distributed freely. Printer polling devices may be provided for customer use at coffee shops, hotels, airports, libraries, bookstores, post offices, supermarkets, kiosks, print shops, retail outlets, or other suitable locations. End users of the printer polling device may be charged a **fee** for using the device.

Detailed Description Text - DETX (14):
In a preferred embodiment, a **fee** may be charged to access the spooling server 50. The **fee** can be based on one of print job size in bytes, print job size in number of pages, print job type, time for printing, time for storage, monthly **fee,** per use **fee,** lifetime membership, monthly membership, use of color, use of black and white, page size, location, convenience, number of images, print quality, image quality, or other suitable factors. The **fee** may be charged for providing a print job to the spooling server 50 and/or retrieving a print job from the spooling server 50. The **fee** can be paid via a client device 12 associated with the print job source 10, the printer polling device 100, or any other suitable device capable of communicating with the spooling server, such as a smart card, a telephone, a personal digital assistant, or the like.

Detailed Description Text - DETX (19):
The key 500 used for encryption 501 may be derived from an **account** number 510, a user's secret PIN (personal identification number) 520, and/or optionally some additional encryption key digits 530 supplied by the user. Simply concatenating the bits together from these sources provides a moderately secure key 500. Optionally, additional security may be achieved by using a more sophisticated hashing function.

Detailed Description Text - DETX (20):

The key 500 would be known only to the user and to the secure, trusted, spooling web server 50. The encrypted print job is sent to the spooling server 50 where it is decrypted (601) to facilitate reformatting 602 for the destination printer once it is known. The reformatted print job data is re-encrypted 603 using the same or similar key 500' derived in the same manner as key 500 at the print job source 10. The encrypted print job is then transmitted from the spooling server 50 to the printer polling device 100. Once at the printer polling device 100, the print job is decrypted 701 using a key 500" derived from the PIN 520, **account** number 510, and/or optional encryption key extension digits 530. The decrypted print job can then be forwarded to the printer 120 for printing.

Detailed Description Text - DETX (28):

FIG. 5 illustrates an exemplary process of authentication of a user using a PIN. When a user desires to access their **account** or documents over a non-secure channel, first, the spooling server 50 needs to verify that it is indeed talking to the actual user. The server generates a random string of bits 350. These bits are sent to the printer polling device 100 where authentication is to take place. The user's PIN 150 is used to generate an encryption key 152 for encrypting the bits (indicated at 155) and the result is returned to the spooling server 50. The spooling server 50 decrypts the string (indicated at 355) using an encryption key 362 generated from the PIN it knows (360) and compares it to the original random string (indicated at 365). If the decrypted string 358 matches the original string 350, the spooling server 50 accepts the user as authenticated. An **account**-number (361, 151) may optionally be used (either alone or in connection with the PIN) to generate the encryption keys 362, 152. Many other authentication protocols are well known in the art and may be substituted for the protocol described above in connection with FIG. 5.

Detailed Description Text - DETX (49):

For example, the spooling server 50 will list those documents 13 being available from the agent program 200 whenever the user of that **account** is interacting with the printer polling device 100, or any other interface provided for communication to the spooling server 50 as described herein.

Claims Text - CLTX (11):

11. A method in accordance with claim 1, further comprising: charging a **fee** to access the spooling server.

Claims Text - CLTX (12):

12. A method in accordance with claim 11, wherein the **fee** is based on one of print job size in bytes, print job size in number of pages, print job type, time for printing, time for storage, monthly **fee,** per use **fee,** lifetime membership, monthly membership, use of color, use of black and white, page size, location, convenience, number of images, print quality, or image quality.

Claims Text - CLTX (13):

13. A method in accordance with claim 11, wherein: the **fee** is charged for

at least one of providing a print job to the spooling server and retrieving a print job from the spooling server.

Claims Text - CLTX (14):
14. A method in accordance with claim 11, wherein the **fee** can be paid via at least one of (i) a client device associated with the print job source; or (ii) the printer polling device.

Claims Text - CLTX (65):
65. A system in accordance with claim 55, wherein a **fee** is charged to access the spooling server.

Claims Text - CLTX (66):
66. A system in accordance with claim 65, wherein the **fee** is based on one of print job size in bytes, print job size in number of pages, print job type, time for printing, time for storage, monthly **fee,** per use **fee,** lifetime membership, monthly membership, use of color, use of black and white, page size, location, convenience, number of images, print quality, or image quality.

Claims Text - CLTX (67):
67. A system in accordance with claim 65, wherein: the **fee** is charged for at least one of providing a print job to the spooling server and retrieving a print job from the spooling server.

Claims Text - CLTX (68):
68. A system in accordance with claim 65, wherein the **fee** can be paid via at least one of (i) a client device associated with the print job source; or (ii) the printer polling device.

US Reference Patent Number - URPN (37):
6615234